IN THE SPECIFICATION:

Please replace paragraph [0016] with the following, amended paragraph:

[0016] To kinematically mount the insert member component 21b into a previously aligned support frame component 21a, the kinematic alignment pin 29a of the insert member component 21b is received in a kinematic groove 41 (FIG. 4) defined by a slot ~~40a~~ 39a of the support frame component 21a. When the outer cylindrical surface 31a of the kinematic alignment pin 29a is fully engaged with the surfaces of the kinematic groove 41, the center axis 31b is precisely located in two orthogonal directions relative to the support frame component 21a as represented by the x and y axes of the support frame component 21a of FIG. 4.

Please replace paragraph [0017] with the following, amended paragraph:

[0017] The insert member component 21b is then rotated, pivoting on the axis 31b of the pin 29a until the second kinematic alignment pin 29b of the insert member component 21b engages a flat kinematic alignment surface 43 defined by a slot ~~40b~~ 39b of the support frame component 21a. When the outer cylindrical surface 31a of the kinematic alignment pin 29b is fully engaged with the flat kinematic alignment surface 43, the center axis 31b of the kinematic alignment pin 29b is precisely located in a rotational direction relative to the support frame component 21a as represented by rotation axis R of the support frame component 21a of FIG. 4. Because the alignment surface 43 is not a groove like the alignment groove 41, the engagement of the pin 29b with the alignment surface 43 does not interfere with the engagement of the alignment pin 29a with the alignment groove 41.

Please replace paragraph [0018] with the following, amended paragraph:

[0018] As shown in FIG. 6, the kinematic alignment pins 29a, 29b each have retainer caps 45 at the ends of the cylindrical body portions 31. As best seen in FIG. 7, the retainer caps 45 are wider in width than the body portions 31 of the kinematic alignment pins such that the caps 45 overhang the pin body portions 31 to provide a retention flange 45a. The cap retention flange 45a and body portion 31 of each alignment pin together with the opposing adjacent surface of the insert member plate portion 33b forms a retainer groove 47 which receives a tongue portion of the support frame component 21a. The inner retention surfaces of the groove 47 engages the outer retention surfaces of the tongue portion to secure the insert member plate portion 33b to the support frame component 21a in the third orthogonal direction as represented by the Z axis of the support frame component 21a of FIGs. 4 and 7. For example, the retainer groove 47 of the alignment pin 29b receives a tongue portion 49a of the support frame component 21a. The leading edge ~~43~~ of the support frame tongue portion 49a provides the kinematic alignment surface 43 engaged by the outer cylindrical surface 31a of the kinematic alignment pin 29b. In this position, a flat face portion 48 of the insert member plate portion 33a is engaged face to face with a flat face portion 50 of the support frame 21a. In addition to being located and retained in the Z direction relative to the support frame component 21a, the insert member component 21b also makes electrical contact with the support frame component 21a in this engaged position.

Please replace paragraph [0019] with the following, amended paragraph:

[0019] In a similar fashion, the retainer groove 47 of the kinematic alignment pin 29a receives a tongue portion 49b (FIG. 6) of the support frame component 21a to secure the insert member plate portion 33b to the support frame component 21a in the Z direction of FIGs. 2 and 7. The leading edges ~~41~~ (FIG. 4) of the support frame tongue portion 49b provides the kinematic alignment groove 41 engaged by the outer cylindrical surface 31a of the kinematic alignment pin 29a.

Please replace paragraph [0021] with the following, amended paragraph:

[0021] The slots ~~40a, 40b and 40c~~ 39a, 39b, and 39c of the support frame component 21a are each sized sufficiently to admit the caps 45, 53 of the pins 29a, 29b, 51 into the associated slot ~~40a, 40c~~ 39a – 39c. In addition, the central aperture 39 is sized sufficiently to admit the extraction electrode body portion 35a into the aperture 39. The insert member component 21b is then pushed downward (-Y direction of FIG. 6) until the kinematic alignment pins 29a, 29b engage the kinematic alignment groove 41 and kinematic alignment surface 43, respectively, as discussed above. The insert member component 21b has a spring 61a (FIG. ~~2~~ 4 ) which engages the support frame component 21a to prevent accidental displacement of the insert member component 21b from the kinematic engagement positions.

Please replace paragraph [0023] with the following, amended paragraph:

[0023] To kinematically mount the insert member component 23b into a support frame component 23a which has previously been aligned using an alignment tool as described above in connection with the support frame component 21a, the kinematic alignment pin 29c of the insert member component 23b is received in a kinematic groove 41 (FIG. 5) defined by a slot ~~68a~~ 67a of the support frame component 23a. When the outer cylindrical surface 31a of the kinematic alignment pin 29c is fully engaged with the surfaces of the kinematic groove 41, the center axis 31b is precisely located in two orthogonal directions relative to the support frame component 23a as represented by the x and y axes of the support frame component 23a of FIG. 5.

Please replace paragraph [0024] with the following, amended paragraph:

[0024] The second kinematic alignment pin 29d of the insert member component 23b is then rotated until it engages a flat kinematic alignment surface 43 defined by a slot ~~68b~~ 67b of the support frame component 23a. When the outer cylindrical surface 31a of the kinematic alignment pin 29d is fully engaged with the flat kinematic alignment surface 43, the center axis 31b of the kinematic alignment pin 29d is precisely located in a rotational direction relative to the support frame component 23a as represented by rotation axis r of the support frame component 23a of FIG. 5.

Please replace paragraph [0028] with the following, amended paragraph:

[0028] As previously mentioned, the kinematic mounting arrangement of the illustrated embodiments may be applied to ion implanter electrodes other than extraction electrodes. For example, ~~as shown in FIG. 1,~~ the ion selector 7 of the illustrated embodiment, comprises a series of discrete elements which are spaced apart along the beam and define a series of apertures which, in combination, select ions of the correct mass and charge state to be implanted in the target substrate while rejecting other spatially resolved ions which pass through the analyzing magnet 5. In this particular embodiment, the ion selector 7 comprises a plate electrode ~~5~~ which rejects most of the unwanted ion species exiting from the magnet, a pair of elements which together define a variable width mass resolving slit which passes only the selected ion specie, and a further element which defines the height of the ion beam. However, the number of mass resolving elements and their configuration may be varied.

Please replace paragraph [0029] with the following, amended paragraph:

[0029] The ion selector assembly is housed in a chamber which forms part of the flight tube and which is disposed between the magnet and the electrode assembly 9. The flight tube including the mass resolving chamber provides the means by which the beam is transported from the ion beam generator to the electrode assembly 9. The mass resolving chamber wall comprises a part which extends in the direction of the beamline and defines a generally cylindrical envelope, and a transverse part adjacent the cylindrical part which constitutes a plate electrode disposed transverse to the beam line and defines an aperture through which the beam can pass, the aperture being adjacent to the final element of the ion selector 7. The transverse part ~~1~~ provides an electrostatic screen for screening the ion selector 7 from electric fields originating downstream of the ion selector. The kinematic mounting techniques described herein may be applied to one or more of the plate electrodes of an ion selector of an ion implanter.

Please replace paragraph [0030] with the following, amended paragraph:

[0030] A screening assembly is positioned between the exit aperture of the mass resolving chamber and the electrode assembly 9 to reduce penetration of the electric field from the electrode assembly 9 into the mass resolving chamber through the exit aperture. The screening assembly comprises a cylindrical electrode, and a field defining electrode. The cylindrical electrode is arranged coaxially with the exit aperture ~~1~~ of the mass resolving chamber and with one end positioned adjacent and connected to the transverse part (or downstream end) of the mass resolving chamber wall. The cylindrical electrode extends downstream of the mass resolving chamber and may have an inwardly extending radial flange formed at its downstream end to provide additional screening and to allow the fitting of the first electrode of the deceleration lens.